

IN THE CLAIMS

1. (Currently Amended) A method, comprising:

in response to a text sentence comprising a plurality of words, each having a part of speech (POS) tag, generating a POS sequence based on the POS tag of each of the plurality of words;

detecting a prosodic phrase break from an output phrase break through a recurrent neural network (RNN), based on the POS sequence, through iterative operations including

retrieving a particular POS tag from the tag sequence,

inputting a first phrase break to a first input of the RNN network,

inputting a first POS tag from the tag sequence to a second input of the RNN network, wherein the first POS tag is associated with the first phrase break,

inputting a second phrase break to a third input of the RNN network,

inputting a second POS tag from the tag sequence to a fourth input of the RNN network, wherein the second POS tag is associated with the second phrase break, and wherein the second POS tag is next to the first POS tag in the tag sequence, and

inputting the particular POS tag to a fifth input of the RNN network,

~~inputting the POS tag to the RNN network, including~~

~~initializing and inputting a first initial phrase break to a first input of the RNN network,~~

~~initializing and inputting a first initial POS tag to a second input of the RNN network,~~

~~initializing and inputting a second initial phrase break to a third input of the RNN network,~~

~~inputting the first POS tag of the tag sequence to a fourth input of the~~
~~RNN network, and~~
~~inputting the second POS tag of the tag sequence to a fifth input of the~~
~~RNN network,~~
generating ~~an~~ the output phrase break associated with the particular POS tag,
from the RNN network,
retrieving a next POS tag from the tag sequence, and
repeating the above iterative operations until there are no more POS tags to be
processed in the tag sequence; and
generating a prosodic phrases boundary based on the prosodic phrase break.

2. (Original) The method of claim 1, further comprising:
assigning a POS tag for each of the plurality of words of the sentence; and
classifying the POS tag for each of the plurality of words to a predetermined class.
3. (Original) The method of claim 2, wherein the classification of the POS tag comprises
adjective, adverb, noun, verb, and number.
4. (Original) The method of claim 3, wherein the classification of the POS tag further
comprises quantifier, preposition, conjunction, idiom, and punctuation.
5. (Original) The method of claim 1, further comprising segmenting the sentence into the
plurality of words.
6. (Canceled)
7. (Canceled)

8. (Currently Amended) The method of claim 1, further comprising:
- inputting the ~~second-initial~~ phrase break to the first input of the RNN network;
 - inputting the ~~first-second~~ POS tag ~~of the tag sequence~~ to the second input of the RNN network;
 - inputting the output phrase break, previously generated through the RNN network, to the third input of the RNN network;
 - inputting the ~~second-particular~~ POS tag ~~of the tag sequence~~ to the fourth input of the RNN network;
 - inputting ~~the~~ a next POS tag following the particular POS tag from in the tag sequence to the fifth input of the RNN network; and
 - generating a next phrase break associated with the next POS tag through the RNN network.
9. (Original) The method of claim 1, wherein the phrase break is generated based on the previously inputted POS tags and previously generated phrase breaks, through the RNN network.
10. (Currently Amended) A method, comprising:
- retrieving a particular POS tag from a tag sequence;
 - inputting the particular POS tag to an RNN network, including
 - inputting a first phrase break to a first input of the RNN network,
 - inputting a first POS tag from the tag sequence to a second input of the RNN network, wherein the first POS tag is associated with the first phrase break,
 - inputting a second phrase break to a third input of the RNN network,

inputting a second POS tag from the tag sequence to a fourth input of the RNN network, wherein the second POS tag is associated with the second phrase break, and wherein the second POS tag is next to the first POS tag in the tag sequence, and
inputting the particular POS tag to a fifth input of the RNN network;
~~initializing and inputting a first initial phrase break to a first input of the RNN network;~~
~~initializing and inputting a first initial POS tag to a second input of the RNN network;~~
~~initializing and inputting a second initial phrase break to a third input of the RNN network, and~~
~~inputting the first POS tag of the tag sequence to a fourth input of the RNN network; and~~
~~inputting the second POS tag of the tag sequence to a fifth input of the RNN network;~~
generating an output phrase break associated with the particular POS tag, from the RNN network;
retrieving a next POS tag from the tag sequence; and
repeating inputting the particular POS tag, generating an output phrase break, and retrieving a next POS tag, until there are no more POS tags to be processed in the tag sequence.

11. (Canceled)

12. (Currently Amended) The method of claim 10, further comprising:

inputting the second ~~initial~~ phrase break to the first input of the RNN network;

inputting the ~~first~~second POS tag ~~of the tag sequence~~ to the second input of the RNN network;
inputting the output phrase break, previously generated through the RNN network, to the third input of the RNN network;
inputting the ~~second~~particular POS tag ~~of the tag sequence~~ to the fourth input of the RNN network;
inputting ~~the~~ a next POS tag following the particular POS tag from in the tag sequence to the fifth input of the RNN network; and
generating a next phrase break associated with the next POS tag through the RNN network.

13. (Currently Amended) The method of claim 10, wherein the first phrase break is generated based on the previously inputted POS tags and previously generated phrase breaks, through the RNN network.
14. (Currently Amended) An apparatus, comprising:
 - an interface to receive a text sentence comprising a plurality of words, each of the plurality of words having a part of speech (POS) tag;
 - a text processing unit to generate a POS sequence based on the POS tag of each of the plurality of words;
 - an recurrent neural network (RNN) to detect a prosodic phrase break from an output phrase break, based on the POS sequence and generating a prosodic phrases boundary based on the prosodic phrase break, wherein the RNN network comprises
 - an input layer for receiving input data, including
 - a first input to receive a first ~~initial~~ phrase break,

a second input to receive a first ~~initial~~ POS tag from the tag sequence,
wherein the first POS tag is associated with the first phrase
break,

a third input to receive a second ~~initial~~ phrase break,

a fourth input to receive a ~~first~~ second POS tag ~~from~~ of the tag
sequence, wherein the second POS tag is associated with the
second phrase break, and

a fifth input to receive a ~~second~~ third POS tag of the tag sequence,

a hidden layer to perform a prosodic phrase break detection, and

an output layer to generate ~~a~~ the prosodic output phrase break; and

a speech processing unit to perform speech analysis on the prosodic phrase breaks and
generating an output speech based on the prosodic phrase breaks.

15. (Original) The apparatus of claim 14, wherein the text processing unit assigns the POS tag for each of the plurality of words of the sentence, and classifies the POS tag for each of the plurality of words to a predetermined class.
16. (Canceled)
17. (Currently Amended) The apparatus of claim 14, wherein:
 - the first input receives the second ~~initial~~ phrase break;
 - the second input receives the ~~first~~ second POS tag ~~of the tag sequence;~~
 - the third input receives the output phrase break, previously generated;
 - the fourth input receives the ~~second~~ third POS tag ~~of the tag sequence;~~ and
 - the fifth input receives ~~the~~ a next POS tag following the third POS tag in from the tag sequence.

18. (Currently Amended) The apparatus of claim 14, wherein the first phrase break is generated based on the previously inputted POS tags and previously generated phrase breaks, through the RNN network.
19. (Currently Amended) A machine-readable medium having stored thereon executable code which causes a machine to perform a method, the method comprising:
in response to a text sentence comprising a plurality of words, each having a part of speech (POS) tag, generating a POS sequence based on the POS tag of each of the plurality of words;
detecting a prosodic phrase break from an output phrase break through a recurrent neural network (RNN), based on the POS sequence, through iterative operations including
retrieving a particular POS tag from the tag sequence,
inputting the particular POS tag to the RNN network, including
inputting a first phrase break to a first input of the RNN network,
inputting a first POS tag from the tag sequence to a second input of the
RNN network, wherein the first POS tag is associated with the
first phrase break,
inputting a second phrase break to a third input of the RNN network,
inputting a second POS tag from the tag sequence to a fourth input of
the RNN network, wherein the second POS tag is associated
with the second phrase break, and wherein the second POS tag
is next to the first POS tag in the tag sequence, and
inputting the particular POS tag to a fifth input of the RNN network,
~~initializing and inputting a first initial phrase break to a first input of the~~
~~RNN network,~~

~~initializing and inputting a first initial POS tag to a second input of the~~
~~RNN network,~~
~~initializing and inputting a second initial phrase break to a third input of~~
~~the RNN network,~~
~~inputting the first POS tag of the tag sequence to a fourth input of the~~
~~RNN network, and~~
~~inputting the second POS tag of the tag sequence to a fifth input of the~~
~~RNN network,~~
generating ~~thean~~ output phrase break associated with the particular POS tag,
from the RNN network,
retrieving a next POS tag from the tag sequence, and
repeating the above iterative operations until there are no more POS tags to be
processed in the tag sequence; and
generating a prosodic phrases boundary based on the prosodic phrase break.

20. (Original) The machine-readable medium of claim 19, wherein the method further comprises:
assigning a POS tag for each of the plurality of words of the sentence; and
classifying the POS tag for each of the plurality of words to a predetermined class.
21. (Canceled)
22. (Currently Amended) The machine-readable medium of claim 19, wherein the method further comprises:
inputting the second ~~initial~~ phrase break to the first input of the RNN network;
inputting the first-second POS tag of the tag sequence to the second input of the RNN network;

inputting the output phrase break, previously generated through the RNN network, to the third input of the RNN network;
inputting the particular second POS tag of the tag sequence to the fourth input of the RNN network;
inputting ~~the a~~ next POS tag following the particular POS tag in~~from~~ the tag sequence to the fifth input of the RNN network; and
generating a next phrase break associated with the next POS tag through the RNN network.

23. (Currently Amended) A machine-readable medium having stored thereon executable code which causes a machine to perform a method, the method comprising:
retrieving a particular POS tag from a tag sequence;
inputting the particular POS tag to an RNN network, including
inputting a first phrase break to a first input of the RNN network,
inputting a first POS tag from the tag sequence to a second input of the RNN network, wherein the first POS tag is associated with the first phrase break,
inputting a second phrase break to a third input of the RNN network,
inputting a second POS tag from the tag sequence to a fourth input of the RNN network, wherein the second POS tag is associated with the second phrase break, and wherein the second POS tag is next to the first POS tag in the tag sequence, and
inputting the particular POS tag to a fifth input of the RNN network;
~~initializing and inputting a first initial phrase break to a first input of the RNN network,~~
~~initializing and inputting a first initial POS tag to a second input of the RNN network,~~

~~initializing and inputting a second initial phrase break to a third input of the RNN network;~~
~~inputting the first POS tag of the tag sequence to a fourth input of the RNN network; and~~
~~inputting the second POS tag of the tag sequence to a fifth input of the RNN network;~~
generating an output phrase break associated with the POS tag, from the RNN network;
retrieving a next POS tag from the tag sequence; and
repeating inputting the particular POS tag, generating an output phrase break, and
retrieving a next POS tag, until there are no more POS tags to be processed in the tag sequence.

24. (Canceled)

25. (Currently Amended) The machine-readable medium of claim 2423, wherein the method further comprising:
inputting the second ~~initial~~ phrase break to the first input of the RNN network;
inputting the ~~first~~ second POS tag ~~of the tag sequence~~ to the second input of the RNN network;
inputting the output phrase break, previously generated through the RNN network, to the third input of the RNN network;
inputting the ~~second~~ particular POS tag ~~of the tag sequence~~ to the fourth input of the RNN network;
inputting the next POS tag ~~from the tag sequence~~ to the fifth input of the RNN network; and

generating a next phrase break associated with the next POS tag through the RNN network.

26. (Currently Amended) The machine-readable medium of claim ~~24~~23, wherein the first phrase break is generated based on the previously inputted POS tags and previously generated phrase breaks, through the RNN network.